What is claimed is:

1. A circuit for attenuating radio frequency signals, comprising:

an input terminal;

an output terminal; and

a first attenuation circuit connected between said input terminal and said output terminal, said first attenuation circuit comprising:

a first transmission line connected serially between said input terminal and said output terminal and having a first transmission line impedance;

a first variable shunt element having one leg connected at a point between said first transmission line and said input terminal, said first variable shunt element having a variable impedance;

a second variable shunt element having one leg connected at a point between said first transmission line and said output terminal, said second variable shunt element having a variable impedance; and

a control signal terminal connected to each of said first and second variable shunt elements so that an attenuation level of said first attenuation circuit is controllable by a control signal input to said control signal terminal, said first transmission impedance and said variable impedances of said first and second variable shunt elements being selected so that an impedance level at said input terminal is within an operable range for all attenuation levels of said first attenuation circuit.

2. The circuit of claim 1, wherein said transmission line comprises an inductive transmission line and said variable impedances of said first and second variable shunt elements includes a capacitance.

3. The circuit of claim 1, wherein each of said first and second variable shunt elements comprises a transistor.

4. The circuit of claim 3, wherein at least one of said first and second variable shunt elements comprises a plurality of transistors connected in series.

5. The circuit of claim 1, further comprising a second attenuation circuit connected in series with said first attenuation circuit between said input terminal and said output terminal, said second attenuation circuit comprising:

a second transmission line having a second transmission line impedance and connected serially between said first attenuation circuit and said output terminal;

a third variable shunt element having a leg connected at a point between said first attenuation circuit and said second transmission line, said third variable shunt element having a variable impedance;

a fourth variable shunt element having a leg connected at a point between said second transmission line and said output terminal, said fourth variable shunt element having a variable impedance; and

a second control signal terminal connected to said third and fourth variable shunt elements such that a level of attenuation of said second attenuation circuit is controlled by a control signal input to said second control signal terminal.

6. The circuit of claim 5, wherein said control signal input to said second control signal terminal of said second attenuation circuit is separate from said control signal input to said control signal terminal of said first attenuation circuit.

7. The circuit of claim 5, wherein said control signal input to said second control signal terminal of said second attenuation circuit is the same as said control signal input to said control signal terminal of said first attenuation circuit.

8. The circuit of claim 5, wherein said first and second transmission impedances and said impedances of said first, second, third, and fourth variable shunt elements are selected so that the impedance level at said input terminal of said circuit remains in the operable range for each attenuation level of said first and second attenuation circuits.

9. The circuit of claim 5, wherein each of said first, second, third, and fourth variable shunt elements comprises a transistor.

10. The circuit of claim 5, wherein an attenuation factor of said first attenuation circuit is different than an attenuation factor of said second attenuation circuit.

11. The circuit of claim 6, wherein said first and second transmission impedances and said impedances of said first, second, third, and fourth variable shunt elements are selected so that the impedance level of each of said first and second attenuation circuits is in the operable range for all attenuation levels of said first and second attenuation circuits.

12. The circuit of claim 1, wherein an attenuation level of said first attenuation circuit is controlled by only said control signal input to said control signal terminal connected to said first and second shunt elements.

13. The circuit of claim 1, further comprising at least one additional circuit portion connected between said second variable shunt element and said output terminal, each of said at least one additional circuit portion comprising an additional transmission line connected in series with said first transmission line and an additional shunt element having a leg connected at a point between said additional transmission line and said output terminal.

14. The circuit of claim 1, wherein said operable range of said impedance level at said input terminal comprises a range of impedances that exhibit a return loss of at least 10dB with a nominal impedance level.

15. The circuit of claim 1, wherein the radio frequency signals to be attenuated have a frequency of at least 100MHz.

16. An attenuator circuit for attenuating radio frequency signals, comprising:

an input terminal;

an output terminal; and

a plurality of attenuation stages serially connected between said input terminal and said output terminal, each of said plural attenuation stages comprising:

a transmission line connected serially between said input terminal and said output terminal and having a transmission impedance;

a first variable shunt element having a leg connected at a point between said transmission line and said input terminal, said first variable shunt element having a variable shunt impedance;

a second variable shunt element having a leg connected at a point between said transmission line and said output terminal, said second variable shunt element having a variable shunt impedance; and

a control signal terminal connected to each of said first and second variable shunt elements such that an attenuation level of said each of said plural attenuation stages is controllable by a control signal input to said control signal terminal, said transmission impedance and said variable shunt impedances being selected such that an impedance level at said input terminal is maintained in an operable range for all attenuation levels.

17. The attenuator circuit of claim 16, wherein said transmission line of each of said attenuation stages comprises an inductive transmission line and said impedances of said first and second variable shunt elements of each of said attenuation stages comprises a capacitance.

18. The attenuator circuit of claim 16, wherein said plural attenuator stages comprise three attenuation stages.

19. The attenuator circuit of claim 18, wherein each of said three attenuation stages has an attenuation factor different than the others of said three attenuation stages.

20. The attenuator circuit of claim 16, wherein each of said first and second variable shunt elements of each of said plural attenuator stages comprises a transistor.

21. The attenuation circuit of claim 20, wherein at least one of said first and second variable shunt elements of each of said plural attenuator stages comprises a plurality of transistors connected in series.

22. The attenuation circuit of claim 16, wherein each of said plural attenuation stages is independently selectively operable in one of a fully on state and a fully off state for effecting various levels of attenuation of said attenuation circuit.

23. The attenuation circuit of claim 16, wherein an attenuation level of said each of said plural attenuation stages is controllable by only said control signal input to said control signal terminal.

24. The attenuation circuit of claim 16, wherein said operable range of said impedance level at said input terminal comprises a range of impedances that exhibit a return loss of at least 10dB with a nominal impedance level.

25. The circuit of claim 16, wherein the radio frequency signals to be attenuated have a frequency of at least 100MHz.

26. A switch circuit for switching radio frequency signals, comprising:

an input terminal;

a first output terminal;

a first switch connected between said input terminal and said first output terminal, said first switch comprising:

a first transmission line having a first transmission impedance and connected serially between said input terminal and said first output terminal;

a first variable shunt element having a leg connected at a point between said first transmission line and said input terminal, said first variable shunt element having a variable impedance;

a second variable shunt element having a leg connected at a point between said first transmission line and said first output terminal, said second variable shunt element having a variable impedance;

a second transmission line having a second transmission line impedance arranged between said first variable shunt element and said input terminal; and

a control signal terminal connected to each of said first and second variable shunt elements, wherein an attenuation level of said first switch is controllable by a control signal input to a control signal terminal of said first switch and wherein said first and second

transmission impedances and said variable impedances of said at least two variable shunt elements are selected so that an impedance level of said first switch at said input terminal is maintained in an operable range for all attenuation states of said first switch.

27. The switch circuit of claim 26, wherein said first and second transmission lines of said first switch comprise inductive transmission lines and each of said impedances of said first and second variable shunt elements comprises a capacitance.

28. The attenuator circuit of claim 26, wherein each of said first and second variable shunt elements of said first switch comprises a transistor.

29. The attenuation circuit of claim 26, wherein at least one of said first and second variable shunt elements of said first switch comprises a plurality of transistors connected in series.

30. The attenuation circuit of claim 26, wherein said first switch is independently selectively operable in one of a fully on state in which said signal is not attenuated and a fully off state in which said signal is fully attenuated.

31. The switch circuit of claim 26, further comprising a second output terminal and a second switch connected between said input terminal and said second output terminal, said second switch comprising:

a third transmission line having a third transmission impedance and connected serially between said input terminal and said second output terminal;

a third variable shunt element having a leg connected at a point between said third transmission line and said input terminal, said third variable shunt element having a variable impedance;

a fourth variable shunt element having a leg connected at a point between said third transmission line and said second output terminal, said fourth variable shunt element having a variable impedance;

a fourth transmission line having a fourth transmission line impedance and arranged between said third variable shunt element and said input terminal; and

a control signal terminal connected to each of said third and fourth variable shunt elements, wherein an attenuation level of said second switch is controllable by a control signal input to said control signal terminal of said second switch and wherein said third and fourth transmission line impedances and said variable impedances of said at least two variable shunt elements are selected so that an impedance level of said second switch at said output terminal is maintained in an operable range for all attenuation states of said second switch.

32. The switch circuit of claim 26, wherein said operable range of said impedance level of said first switch at said input terminal comprises a range of impedances that exhibit a return loss of at least 10dB with a nominal impedance level.

33. The circuit of claim 26, wherein the radio frequency signals have a frequency of at least 100MHz.